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## *Das Handy: Cell Phones in Germany & Europe*

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### The crazy world of “Handys”

#### Will a US cell phone work in Europe?

#### Does *ein Handy* work in the US?

**When is a cell phone not a cell phone?** When it's a German *Handy*... and it uses a different frequency and a different standard than its North American cousins.



An online supplement to the books **The German Way** and **When in Germany...**  
by Hyde Flippo,  
published by  
McGraw-Hill/Passport Books

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### Beauty & Brains

#### CELL PHONE

#### TECHNOLOGY AND THE ACTRESS

What? The Austrian actress [Hedy Lamarr](#) helped invent CDMA, the



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The iPhone 4S on display at a T-Mobile shop in Germany. PHOTO © Hyde Flippo

The tangle of incompatible standards for cellular, wireless, or mobile phones in the world is similar to the jumble of conflicting television standards around the globe ([ATSC](#), [PAL](#), [SECAM](#)) – only worse. At least with TV standards, the entire country is under one system. In the US alone, there are several incompatible mobile phone systems. In Europe the situation is better, but the Europeans and much of the world have gone one way in cell phone technology, while North Americans have largely gone another.

In Europe the **GSM** (Global System for Mobile communications) digital mobile phone system is used for German *Handys* and digital cell phones across most of the continent. Germany has four main competing digital phone standards: D1, D2, E2, and e-plus (all are GSM). In the Americas, the wireless phone situation is much more tangled. There are several different major digital systems. To really understand it all, it helps to know terms like CDMA, TDMA, PCS, and other tech abbreviations. (See our [Cell](#)

[Phone Glossary](#) for help.)

Attempts to achieve a world-wide mobile phone standard have been thwarted by competing technology companies and political interests — even resulting in a dispute between the US and Europe over a universal mobile telephone standard. Europe has largely achieved digital wireless standardization already with the **GSM** system, while the US and Canada continue to have incompatible

complicated coding system that is used in modern digital telephones? Yes. In 1942, Lamarr and the musician George Antheil were granted a patent for their "frequency hopping" system for radio signals in control devices to make them invulnerable to radio interference or jamming. This technological feat was formally acknowledged by the Electronic Frontier Foundation in 1997. Speaking of the EFF award, the late Lamarr, then a Florida retiree, said: "It was about time."

For more about this, see the [Hedy Lamarr](#) page at the [German-Hollywood Connection](#).

Disclaimer

The technical and wireless information on the GW cell phone pages has been gathered from a variety of sources as a courtesy to our readers. It does not imply any endorsement of the technology, services, or products mentioned. Although we have made every attempt to be as accurate and complete as possible, we cannot guarantee the accuracy of all of the information found here.

GPS

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- Rentals
- SIM Cards
- GSM Phones

digital networks run by competing operators using different technology. But because it offers several technical and marketing advantages, there is a growing trend towards GSM in the US wireless phone market. GSM phones are provided in the US by T-Mobile (a German company) and AT&T, and the quad-band versions will work with the European GSM systems. Your **AT&T iPhone** will work fine in Europe. (But only Verizon's new 4S will.) However, even if you have a quad-band cell phone, you'll need an international roaming plan to save money. **More...**

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GSM has taken on true worldwide dominance in wireless phone systems, with some 3 billion users in almost 200 countries, including the United States. In Europe, Africa, and much of Asia the GSM system is the only technology used for mobile phones. This means that GSM has more users worldwide (about 80 percent) than all the other digital wireless systems combined. It also means that a normal US, non-GSM mobile phone is useless in most other parts of the world. But see below...

### Possible Solutions

For North Americans going to German-speaking Europe or vice versa, there are several possible solutions to the *Handy* dilemma:

**1 Rental:** You can rent a GSM cell phone during your trip to Europe. Several firms rent out GSM wireless phones on a short-term basis. There are many companies renting cell phones for use in Germany and the rates vary widely. A rule of thumb is that if your rental includes a local **German SIM card** and hence a German cell phone number, the rates should be much lower, as you are not roaming. In fact, rates to call the United States or Canada can be as low as a few pennies per minute. Renting a phone for Germany may also be more expensive than purchasing a German cell phone, particularly if you plan on staying in Germany for several weeks or more. Some rental phones may be "locked" so that they can not be used with other (German, European) SIM chips. Try to get an unlocked phone. (See more about renting vs

Germany and Europe.  
**More...**



buying below and in [“Handy” Tips - Part 2.](#))

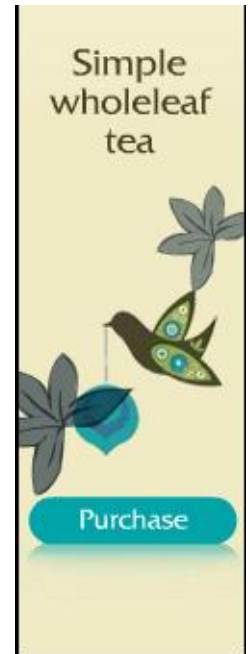
**2 Buy - Option A:** With a contract. Buy a **multi-band GSM cell phone** that can function in the several incarnations of the GSM system – in Europe and North America. Such phones are made by all the major cell phone manufacturers and are sold – with a contract – by all major wireless carriers in the US. Most of AT&T and T-Mobile’s phones are quad-band and have the necessary 900/1800 bands for use in Germany and some Sprint and Verizon handsets have the 900/1800 bands as well. Your options are to “roam” in Germany with your current provider and pay their roaming rates. The advantage is that you will retain your US phone number. The disadvantage is that anyone who has your number and calls you will increase your cell phone bill by over a \$1.00 per minute. A better solution may be to ask your carrier to unlock your cell phone to be able to accept a German SIM card. There are several German SIM card options available. More on that below. (Note: **iPhones** sold by Verizon and Sprint use CDMA technology and – except for the new 4S – won’t work in Europe and other GSM regions.)

- NEW! Buying and using an **iPhone for Germany!**

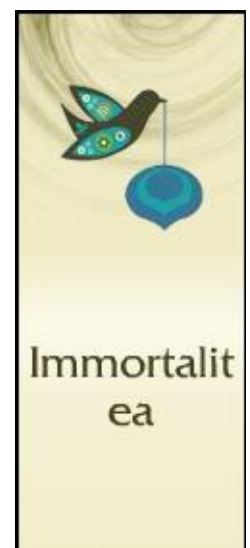
**3 Buy - Option B:** Without a contract. Buy an unlocked GSM

phone that can be used with any SIM chip. If your current phone does not have the 900/1800 GSM networks for use in Germany and you do not want to upgrade, you can buy an unlocked GSM handset. Even the **iPhone** is now available unlocked! (But it’s much cheaper to buy one in the US.) You can also buy a European mobile phone that is unlocked, making you free to use any chip (even a SIM card from the US) with it. A good unlocked GSM phone will run about \$150-250 in most of Europe. (Smartphones cost more.) But if it’s not a multi-band model, it can only be used in Europe. However, multi-band models are available. This is a good option for people who will be in Europe frequently.

**4 Buy - Option C:** Prepaid. Buy a **GSM prepaid wireless phone and/or SIM card** in Germany that includes call time. You can buy a decent cell phone in Germany for under US\$50 that includes prepaid minutes and a “refillable” SIM chip. As you don’t



A new German phrasebook by Hyde Flippo, published by McGraw-Hill





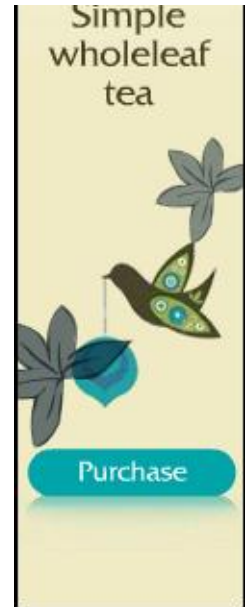
need to have a German address or a German fixed network phone number in order to purchase a German cell phone, this is a distinct advantage for travelers. The per-minute rate for a typical pay-as-you-go cell phone for Germany varies considerably from carrier to carrier. One of the carriers with the most affordable rates is Ortel. Ortel Mobile caters specifically to foreigners living in, and tourists traveling to Germany. Unlike German carriers such as o2, E-Plus or T-Mobile with “Handy” stores available on almost every block of any shopping district, Ortel is harder to find in Germany. However, their cell phones and SIM cards are available online in the US at [Cellular Abroad](#). Ortel’s rates are as low as one eurocent per minute to call the US and, once you have the SIM card, you can opt for a plan that offers unlimited mobile broadband for only 8 euros for 30 days. If your cell phone is data-capable, like the iPhone or other smartphones, you can get low voice rates as well as data rates. Ortel SIM cards also work with GSM iPads.

For some people, particularly business people who want to use their US cell phone number in Germany, options one or two

(above) might be better, despite the higher cost.

Get a low-cost [prepaid SIM card](#) for Germany from [Cellular Abroad](#)

**5 Satellite Phones** | A satellite phone offers service in places where normal cell phones won’t work. The Iridium **global satellite phone** option almost vanished not long ago when Iridium went into Chapter 11 bankruptcy. The new Iridium is a much more attractive option than before, but it’s still not something for the average traveler. Iridium now offers smaller, lighter phones, free incoming calls and a more competitive rate of \$1.50/min. for outgoing calls. There are currently several global satellite phone options available from **Iridium**, **Globalstar**, and others. With even the [best satellite phone](#) packages, the main drawbacks are the cost of the handset, running up to \$1,000, and much slower data rates than a 3G network. For the vast majority of travelers to Germany, coverage with a GSM cell phone will be adequate. For more about satellite phone services, see Wikipedia’s [Satellite Phone](#) entry plus our own [Cell Phone Glossary](#) pages.



## Der Euro

Since January 2002, all prices in Germany and most other European countries have been in **euros**, not marks,

francs, lire, or pesetas.

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## No One Solution for All

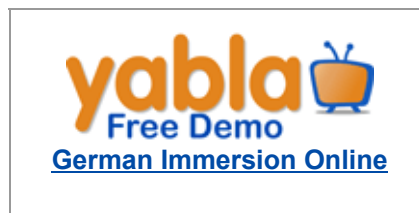
Since no single solution is best for everyone, you'll have to make a decision based on your own requirements. If you will be going back and forth between Europe and North America fairly often, you may want a single phone that is compatible with the various GSM systems. But you can also use a GSM phone in Europe and your regular US wireless phone at home. (Remember that GSM networks on both sides of the Atlantic use differing frequencies, although many GSM phones now have all four bands.) See our [Glossary](#) and ["Handy" Tips - Part 2](#) for more.

GSM phones also take advantage of [SIM card](#) technology, a tiny smart card that can be inserted in the phone to allow the use of more than one phone number. This makes it possible, for example, to use your home phone number and a European number on the same phone.

For more about using a cell phone in Europe and North America, see "Some GSM phone tips" by seasoned traveler Sebastian Harrison in [Part Two](#), plus our [Glossary](#) pages.

NEXT > [Cell Phones in Germany - Part 2](#)

MORE > [The iPhone in Germany](#)



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## Related Pages

- ["Handy" Cell Phone Tips - Part 2](#) - First-hand tips on

using a wireless phone in North America and Germany / Europe

- **The iPhone in Germany** - and now also available without a contract (unlocked) in the US!
- **"Expat, Phone Home"** - Helpful tips from the GW Expat Blog!
- **GPS Navigation** - Rent a GPS system to guide you through Germany and Europe.
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- **Telephone Tips** - Do you know how to use a German coin or credit card phone?
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- **The Germans, Deutsche Telekom, and stocks** - Was it a good idea to buy DT shares when they were first offered back in 1996?
- **Expat Page** - Advice and links for expats in German Europe.
- **Hedy Lamarr** - The Austrian actress was the co-inventor of "frequency hopping"—a technology that later became known as spread spectrum, a technology adapted for cell phones.

NEXT > [Cell Phones in Germany - Part 2](#)

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